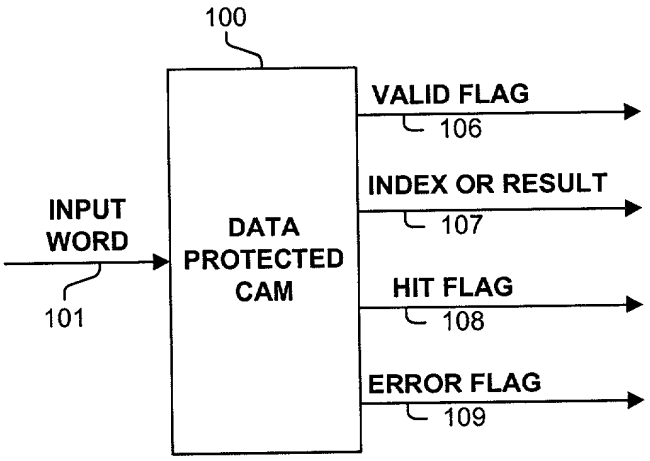


FIGURE 1

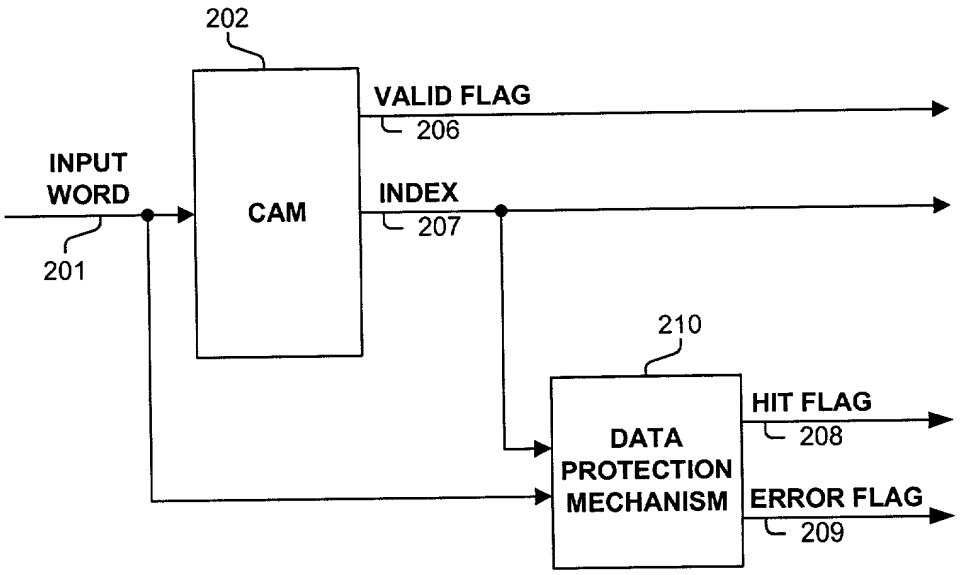


FIGURE 2

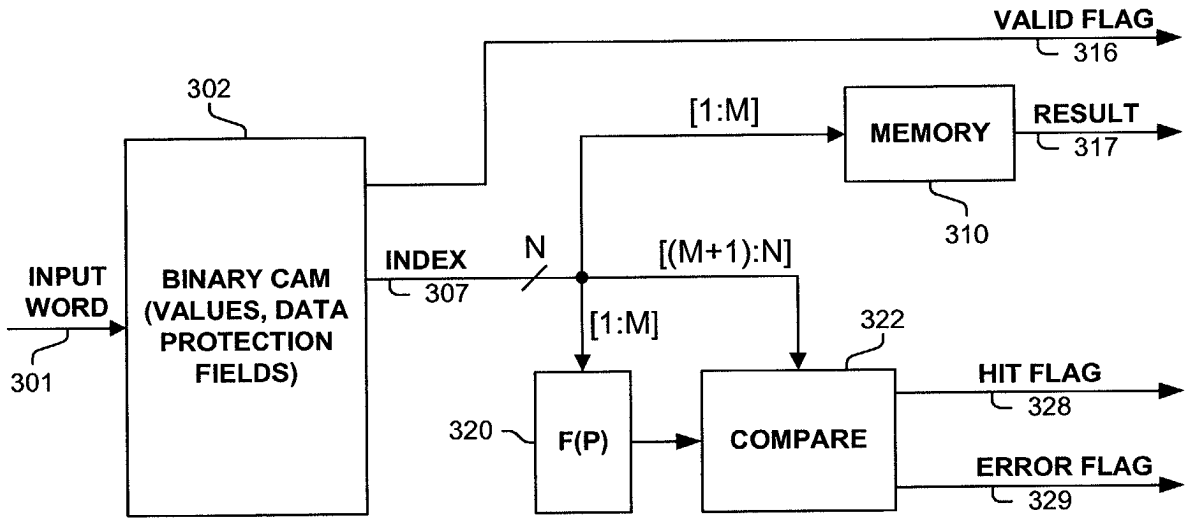

VALID FLAG
316
302
[1:M]
MEMORY
RESULT
317
310
INPUT
WORD
301
BINARY CAM
(VALUES, DATA
PROTECTION
FIELDS)
INDEX
307
N
[(M+1):N]
[1:M]
322
320
F(P)
COMPARE
HIT FLAG
328
ERROR FLAG
329

FIGURE 3A

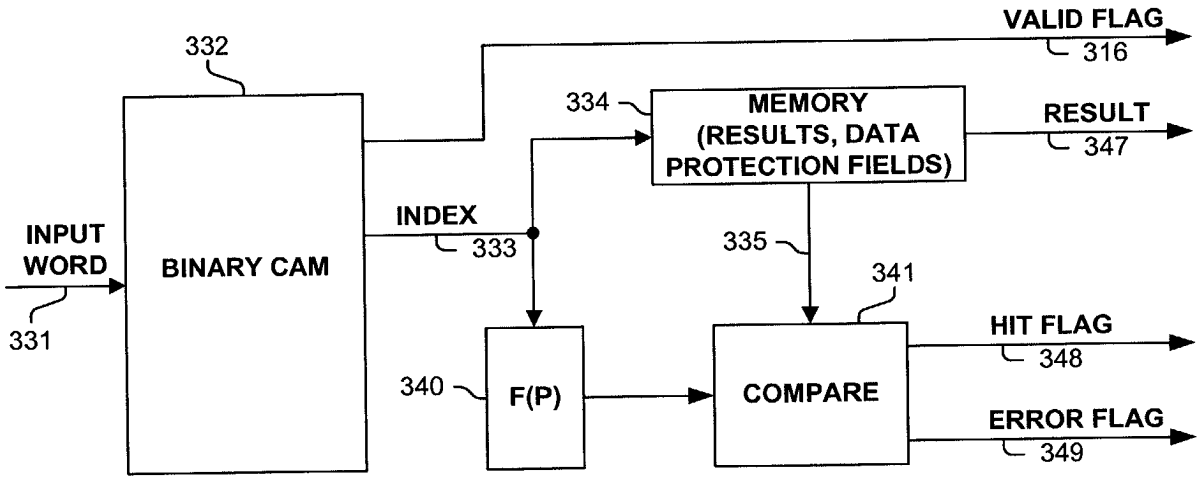
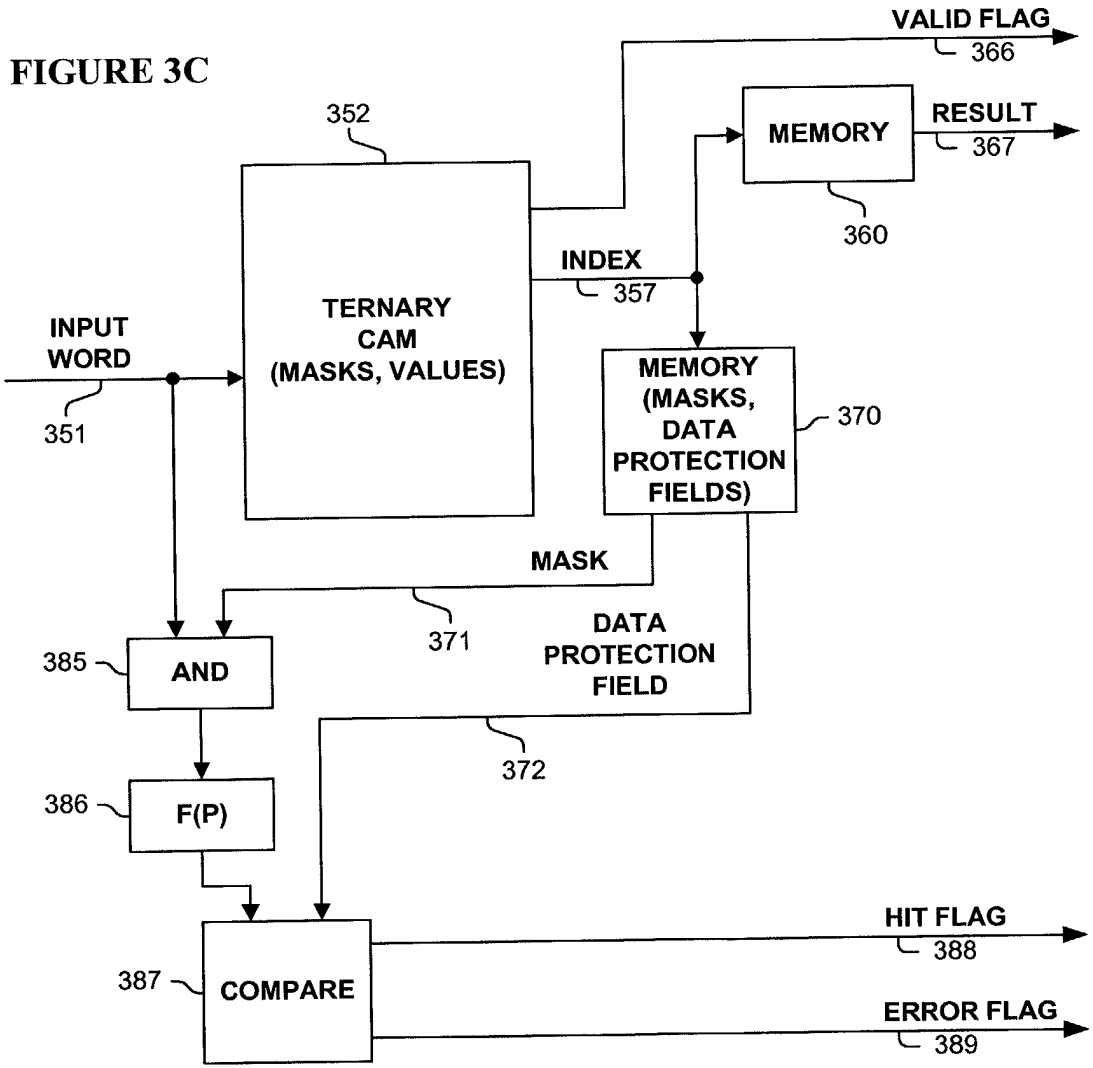

VALID FLAG
316
332
334
MEMORY
(RESULTS, DATA
PROTECTION FIELDS)
RESULT
347
INPUT
WORD
331
BINARY CAM
INDEX
333
335
341
HIT FLAG
348
340
F(P)
COMPARE
ERROR FLAG
349

FIGURE 3B

FIGURE 3C


VALID FLAG
366
352
MEMORY
RESULT
367
360
INDEX
357
TERNARY
CAM
(MASKS, VALUES)
INPUT
WORD
351
MEMORY
(MASKS,
DATA
PROTECTION
FIELDS)
370
MASK
371
DATA
PROTECTION
FIELD
385
AND
372
386
F(P)
HIT FLAG
388
387
COMPARE
ERROR FLAG
389

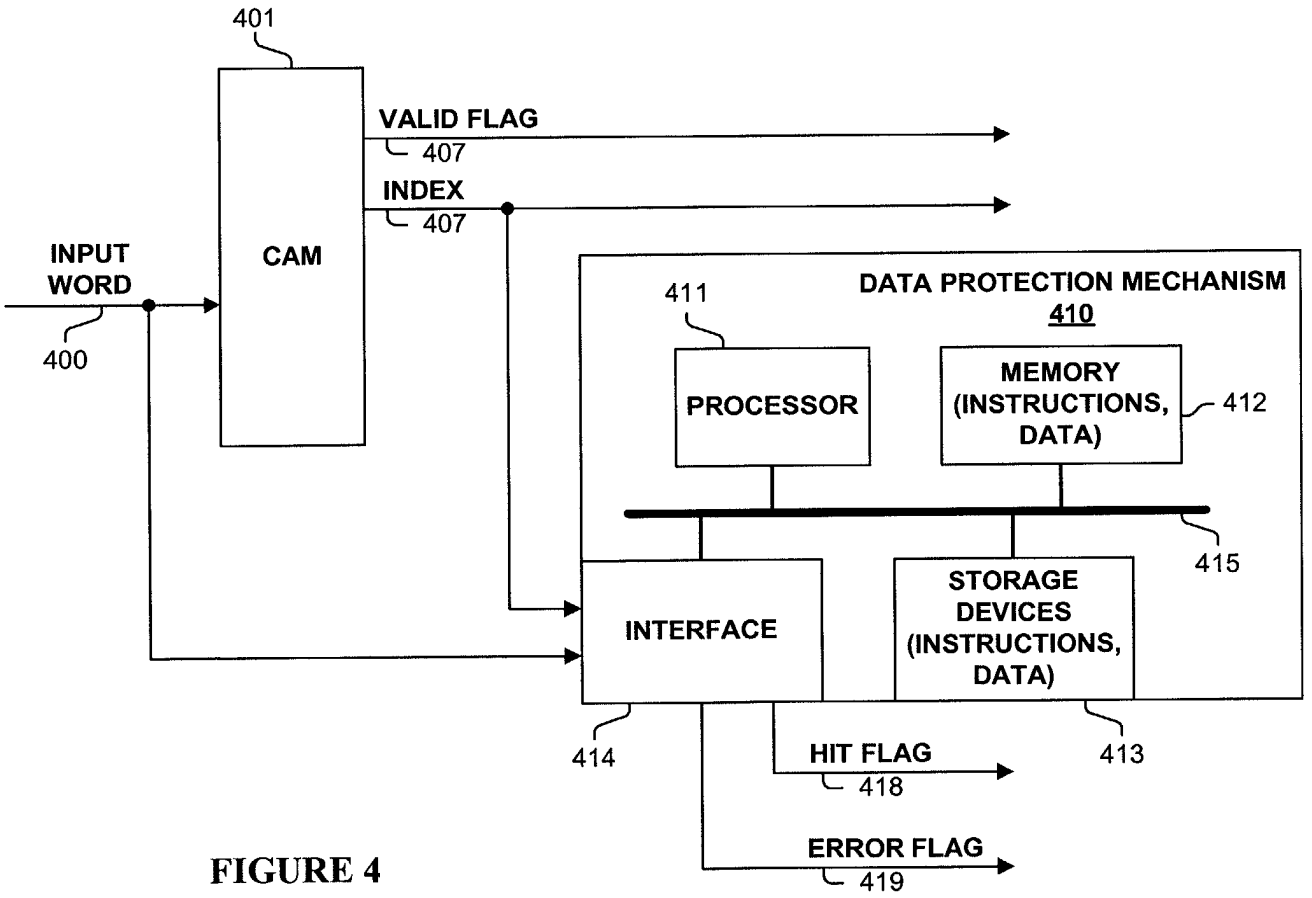

401
CAM
VALID FLAG
407
INDEX
407
INPUT
WORD
400
DATA PROTECTION MECHANISM
410
411
PROCESSOR
MEMORY
(INSTRUCTIONS,
DATA)
412
415
INTERFACE
STORAGE
DEVICES
(INSTRUCTIONS,
DATA)
414
413
HIT FLAG
418
ERROR FLAG
419

FIGURE 4

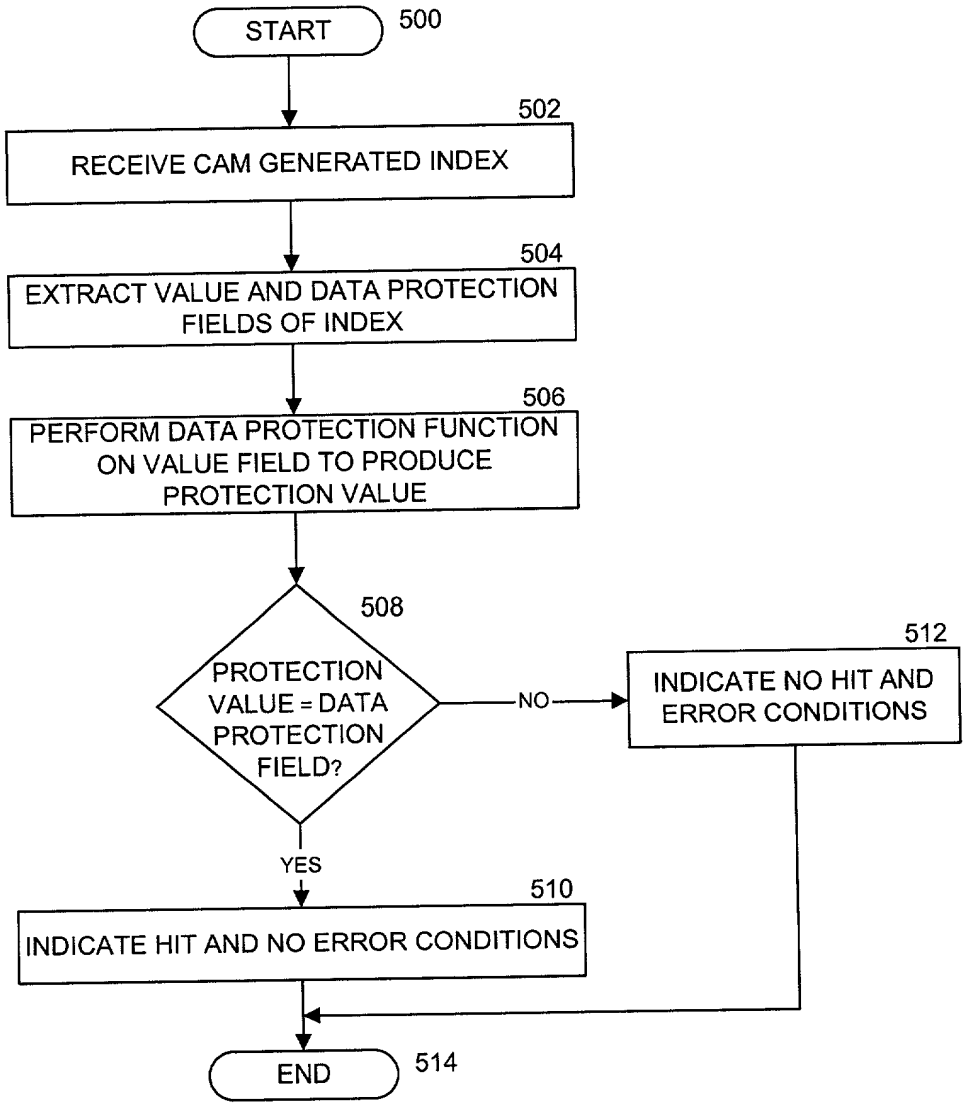

START
500
502
RECEIVE CAM GENERATED INDEX
504
EXTRACT VALUE AND DATA PROTECTION FIELDS OF INDEX
506
PERFORM DATA PROTECTION FUNCTION ON VALUE FIELD TO PRODUCE PROTECTION VALUE
508
PROTECTION VALUE = DATA PROTECTION FIELD?
NO
512
INDICATE NO HIT AND ERROR CONDITIONS
YES
510
INDICATE HIT AND NO ERROR CONDITIONS
END
514

FIGURE 5A

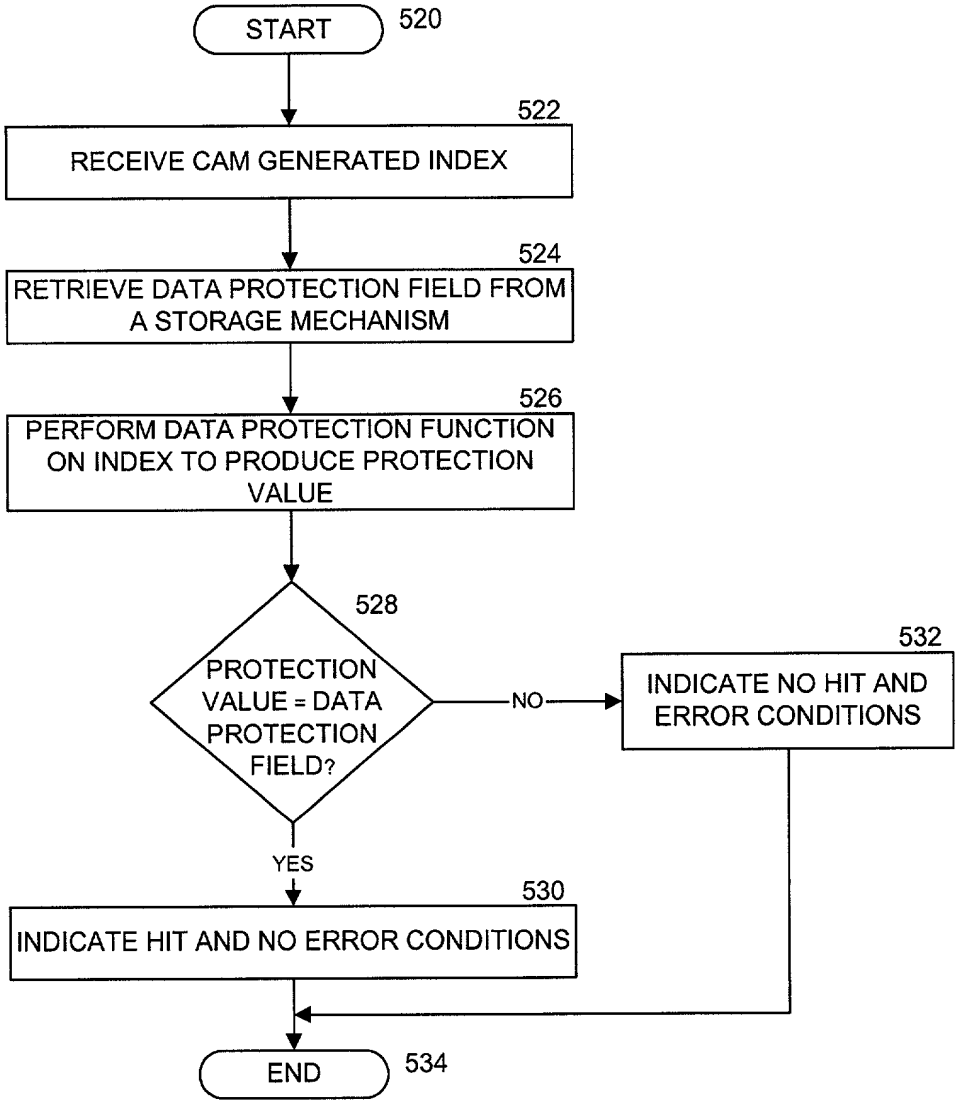

START
520
522
RECEIVE CAM GENERATED INDEX
524
RETRIEVE DATA PROTECTION FIELD FROM A STORAGE MECHANISM
526
PERFORM DATA PROTECTION FUNCTION ON INDEX TO PRODUCE PROTECTION VALUE
528
PROTECTION VALUE = DATA PROTECTION FIELD?
NO
532
INDICATE NO HIT AND ERROR CONDITIONS
YES
530
INDICATE HIT AND NO ERROR CONDITIONS
END
534

FIGURE 5B

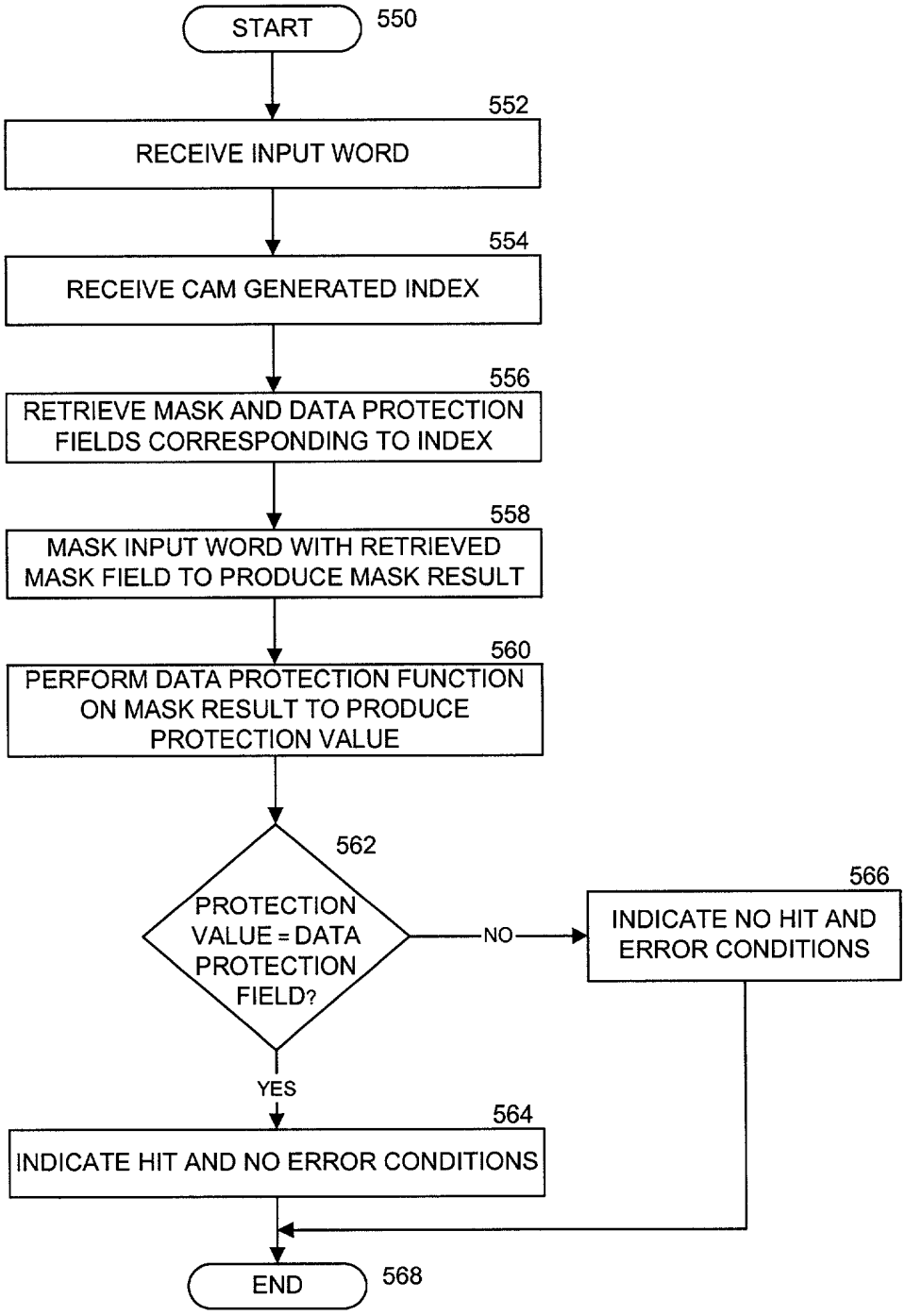

START
550
552
RECEIVE INPUT WORD
554
RECEIVE CAM GENERATED INDEX
556
RETRIEVE MASK AND DATA PROTECTION FIELDS CORRESPONDING TO INDEX
558
MASK INPUT WORD WITH RETRIEVED MASK FIELD TO PRODUCE MASK RESULT
560
PERFORM DATA PROTECTION FUNCTION ON MASK RESULT TO PRODUCE PROTECTION VALUE
562
PROTECTION VALUE = DATA PROTECTION FIELD?
NO
566
INDICATE NO HIT AND ERROR CONDITIONS
YES
564
INDICATE HIT AND NO ERROR CONDITIONS
END
568

FIGURE 5C